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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/393,431      | 09/10/1999  | STEVE J. STATHL      |                     | 2698             |

7590 06/26/2003

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EXAMINER

TSE, YOUNG TOI

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 06/26/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/393,431             | STATHL, STEVE J.    |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | YOUNG T. TSE           | 2634                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 30-97 is/are pending in the application.
- 4a) Of the above claim(s) 1-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-97 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>11</u> | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed April 10, 2003 fails to comply with 37 CFR 1.97(c) because it lacks a statement as specified in 37 CFR 1.97(e). It has been placed in the application file, but the information referred to therein has not been considered.
2. The information disclosure statement filed April 10, 2003 fails to comply with 37 CFR 1.97(c) because it lacks the fee set forth in 37 CFR 1.17(p). It has been placed in the application file, but the information referred to therein has not been considered.

### ***Drawings***

3. The drawings are objected to because the block pertaining elements (114, 106, 108, 148, and 149) in Fig. 1 need to have descriptive label, in conformance with 37 CFR 1.84(n) and 1.84(o). For example, a descriptive label of "scan controller" should be inserted into Fig. 1 to properly describe element (149). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities: on page 1, line 1, Applicant is requested to update the division of Serial No. 09/022,950, now U.S. Patent No. 5,955,992. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 30-97 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The configuration of claims 30-97 does not correspond to the disclosure of the drawings. For example, independent claim 31 recites a multicarrier-signal generator including: a pulse generator capable of generating a plurality of periodic pulses, the periodic pulses having at least one pulse period and a frequency spectrum comprising a plurality of carrier signals having equally spaced frequencies with a frequency spacing that is a function of the at least one pulse period; a modulator coupled to the pulse generator, the modulator adapted to modulate at least one information signal onto at least one of the pulses; and a frequency selector coupled to the modulator and the pulse generator, the frequency selector capable of selecting the plurality of the carrier signals to be within at least one predetermined frequency band. Wherein independent apparatus claim 30 and method claims 32-33 recite the similar claimed subject matter as recited in independent claim 31.

However, according to present invention, the only apparatus shown in Fig. 1 is a schematic of an array processor including a traveling-wave cavity that contains a frequency-shifting device through which optical signals are circulated.

Referring to Fig. 1, the array processor comprises an injection source (110) including a laser source controller (114) and a laser source (112); a FSFC circuit (100) including a frequency shifting device (107) comprising an RF source (108) and a transducer (106), mirrors (101-104), and a cavity-length adjustment device (109); an optical-to-RF signal converter (120); a transmit/receive couple array (130); an optical receiver network (140); and an antenna array (150).

In the remarks, Applicant argues that the proposed amendment to the specification clearly identifies the FSFC 100 as a pulse generator, the controller 114 as a modulator, and the AOM 107 and the injection source 110, as well as filters described in the specification, as frequency selectors.

The specification fails to describe which part of the array processor show in Fig. 1 is a pulse generator capable of generating a plurality of periodic pulses, the periodic pulses having at least one pulse period and a frequency spectrum comprising a plurality of carrier signals having equally spaced frequencies with a frequency spacing that is a function of the at least one pulse period, which part of the array processor is a modulator coupled to the pulse generator, the modulator adapted to modulate at least one information signal onto at least one of the pulses, and which part of the array processor is a frequency selector coupled to the modulator and the pulse generator, the

frequency selector capable of selecting the plurality of the carrier signals to be within at least one predetermined frequency band.

As argued by the Applicant, the FSFC 100 is the pulse generator, the controller 114 is the modulator, and the AOM 107 and the injection source 110, as well as the filters described in the specification are the frequency selectors. However, at least the AOM 107 can't be included in the frequency selector because it is labeled within the block of the FSFC 100. Further, which parts shown in Fig. 1 are the filters described in the specification?

Applicant is requested to point out exactly where in the specification support every claim limitations in claims 30-97.

Further, the amended claim 32 recites a step of providing for generating a plurality of periodic pulses including generating a plurality of unmodulated pulses having at least one pulse period and a frequency spectrum comprising a plurality of carrier signals also lacks support in the specification.

Furthermore, dependent claims 34-39 and 54-55 recite the pulse generator further comprises a modulator, a coder, a carrier generator, and a combiner and the claimed subject matter recited in the dependent claims 40-54 and 56-97 is not shown in the drawings and supported in the specification.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 30-97 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al..

Johnson et al. (U.S. Patent No. 5,309,514) discloses a circuit arrangement in Fig. 3A for amplitude modulating the sound carrier using the sine squared pulses of Fig. 2B and an alternative circuit arrangement in Fig. 3B for amplitude modulating the sound carrier using the pulses of Fig. 2C.

Referring to Fig. 3A, the circuit arrangement comprises a control circuit 40, a logic gate 45, a sine squared shaping filter 50, and an amplitude modulator 55. See col. 1, line 52-col. 2, line 9.

Referring to Fig. 3B, the alternative circuit arrangement comprises a control circuit 66, a logic gate 67, a pulse modification circuit 68, first and second sine squared shaping filters 70 and 72, a timing control 75, a gain adjustment circuit 80, and an amplitude modulator 81. See col. 2, lines 38-60.

With respect to each of independent claims 30-33, the circuit arrangement shown in either Fig. 3A or Fig. 3B includes a pulse generator for generating pulses for modulation onto a carrier or subcarrier of a composite television signal is provided. The pulse generator includes memory such as an EPROM for storing one or more wave-shapes. Each stored wave-shape is defined by a sequence of addressable values representing the amplitude and of the wave-shape as a function of time. A selecting circuit such as a microprocessor selects one of the wave-shapes in the memory. A

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counting circuit responsive to a clock signal controls the address lines of the memory to read the amplitude values corresponding to the selected wave-shape from the memory. The amplitude values are supplied to a digital to analog converter to convert the amplitude values to an analog pulse. The pulse may then be filtered to remove clock noise. The resultant signal is supplied to an amplitude modulator for modulating the signal onto a carrier or subcarrier of the composite television signal. See Abstract.

With respect to the dependent claims 34-97, the claimed subject matter recited in claims 34-97 is well known to a person skill in the pulse communications art.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

References Stoffer and Bocchi et al. are made of record as describing a related pulse circuit including a pulse generator for generating periodic pulses to a modulator circuit and a selector circuit for selecting the frequency of the modulated pulses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Young Tse** whose telephone number is **(703) 305-4736**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.



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**Any response to this action should be mailed to:**

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**or faxed to:**

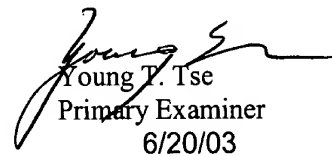
**(703) 872-9314 (for Technology Center 2600 only)**

**Or:**

**(703) 872-9315 (for amendments after final rejection only, please  
mark "EXPEDITED PROCEDURE")**

Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service Office whose telephone  
number is (703) 306-0377.

  
Young T. Tse  
Primary Examiner  
6/20/03